

Chapter 10
COMPLIANCE, REGULATORY REQUIREMENT,
PERMITS

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COMPLIANCE, REGULATORY REQUIREMENT, PERMITS

This chapter provides information concerning the environmental standards that regulate or guide proposed plans presented in the Complex Transformation Supplemental Programmatic Environmental Impact Statement (SPEIS). This section presents primary environmental compliance requirements that would result from implementation of the proposed action or alternatives. These requirements are found in Federal and State statutes, regulations, permits, approvals, and consultations, and in Executive and U.S. Department of Energy (DOE) orders, consent orders, and a Federal Facility Agreement. These citations identify the standards to be used for evaluating the ability of the alternative actions to meet the environmental, safety, and health requirements and for obtaining required Federal and state permits and licenses.

10.0 INTRODUCTION

As mandated by the *National Environmental Policy Act* (NEPA), the *Complex Transformation Supplemental Programmatic Environmental Impact Statement* (SPEIS) must assess whether the proposed action and alternatives would result in a violation of a Federal, State, or local law or requirement imposed for the protection of the environment (40 Code of Federal Regulations [CFR] 1508.27), or necessitate a permit, license, or other entitlement (40 CFR 1502.25). This chapter provides a baseline summary assessment of the environmental, safety and health (ES&H) requirements that apply to the proposed action and alternatives, to the extent necessary to assist in making programmatic-level decisions. These requirements include Federal and State statutes, regulations, permits, approvals, and consultations, as well as executive orders and DOE orders, consent orders, Federal Facility Agreements, Federal Facility Compliance Agreements (FFCA), and agreements in principle that identify the standards against which the proposed action and alternatives will be evaluated to ensure compliance with all applicable ES&H requirements, and to obtain the required Federal, State, and local permits, licenses, and approvals.

The remainder of this chapter explains the concept of shared Federal and State enforcement, provides historical background on environmental protection at nuclear weapons production facilities, and summarizes the ES&H requirements associated with proposed action and alternatives.

10.1 PURPOSE

Federal and State governments mandate ES&H requirements for operations at current DOE facilities and newly constructed or proposed facilities. These requirements originate with the U.S. Congress, Federal agencies, Executive orders, State legislatures, State agencies, and local governments. In general, Federal statutes establish national policies, create broad legal requirements, and authorize Federal agencies to create regulations that conform to statutes. These statutes are delegated to various Federal agencies, including the DOE, U.S. Environmental Protection Agency (EPA), and the U.S. Department of Transportation (DOT), which promulgate

implementing regulations. Executive orders are issued by the President and establish policies and requirements for Federal agencies, but do not have the force of law of regulations. State legislatures issue their own statutes to authorize and mandate promulgation of State regulations. State statutes, like Federal statutes, establish broad legal requirements. State regulations are then promulgated by State agencies to enforce State statutes.

The FFCA waives sovereign immunity from enforcement of the *Resource Conservation and Recovery Act* (RCRA) at Federal facilities and thereby gives States the authority to assess fines and penalties under certain conditions. It further requires DOE to develop plans and enter into agreements with States as to specific management actions for particular mixed waste streams. Such agreements could have a direct effect on the wastes generated as a result of the implementation of the proposed action and alternatives, yet such an effect cannot be determined until such time as these agreements are approved according to the terms of the FFCA.

Some environmental regulatory programs are enforced through review, approval, and permitting requirements that attempt to minimize the negative impacts from releases of pollutants to the environment by limiting activities to established standards. Federal and State agencies share environmental regulatory authority over DOE facility operations when Federal legislation delegates permitting or review authority to qualifying States. Some examples are the following: National Emission Standards for Hazardous Air Pollutants (NESHAP) and the Prevention of Significant Deterioration under the *Clean Air Act* (CAA); the Water Quality Standards and the National Pollutant Discharge Elimination System (NPDES) under the *Clean Water Act* (CWA); the Hazardous Waste Programs under RCRA; and the Drinking Water and Underground Injection Control Programs under the *Safe Drinking Water Act* (SDWA). When Federal legislation allows delegation of enforcement authority, States must set standards equal to or more stringent than those required by Federal law to obtain such authority. Where the Federal regulatory agency has delegated its authority, the State or local regulations set the governing standards; however, when Federal legislation does not provide for delegation of enforcement authority to the States (e.g., the *Toxic Substances Control Act* [TSCA]), the standards are administered and enforced solely by the Federal Government.

The health and safety of all workers associated with the proposed action and alternatives is a primary consideration in the programmatic decision resulting from this Supplemental PEIS. A comprehensive nuclear and occupational safety and health initiative was announced by the Secretary of Energy on May 5, 1993, entailing closer consultation with the Occupational Safety and Health Administration (OSHA) regarding regulation of worker safety and health at DOE contractor-operated facilities. Regulation of worker health and safety at DOE contractor-operated facilities will gradually shift from DOE to OSHA. The *Occupational Safety and Health Act* of 1970 (Public Law 91-596) establishes Federal requirements for ensuring occupational safety and health protection for employees. DOE facilities also comply with the *Emergency Planning and Community Right-To-Know Act* (EPCRA) (42 U.S.C. 11001), which requires facilities to report the release of extremely hazardous substances and other specified chemicals; to provide material safety data sheets or lists thereof; and to provide estimates of the amounts of hazardous chemicals onsite. The reporting and emergency preparedness requirements are designed to protect both individuals and communities.

10.2 BACKGROUND

Since a large number of the facilities in the Nation's Nuclear Weapons Complex (Complex) were constructed in the 1940s and 1950s, before the advent of most ES&H requirements, national security requirements played a dominant role in the design and operation of those facilities. However, with the emerging awareness of environmental and health-related issues and the enactment of environmental and worker safety and health programs, DOE began shifting its resources into programs designed to achieve compliance with all applicable Federal, State, and local ES&H requirements. Today, many government agencies at the Federal, State, and local levels have regulatory authority over DOE facility operations. DOE has entered into enforceable compliance agreements with the regulators at most of its facilities. These agreements detail specific programs, funding levels, and schedules for achieving compliance with applicable ES&H statutory and regulatory requirements.

10.3 FEDERAL ENVIRONMENTAL, SAFETY & HEALTH STATUTES, REGULATIONS, ORDERS, AND AGREEMENTS

The *Atomic Energy Act* of 1954, as amended, directs DOE to protect public health and minimize dangers to life or property with respect to activities under its jurisdiction. The EPA, under authority of the *Atomic Energy Act*, has set radiation protection standards for workers and the public. EPA has also promulgated Federal environmental regulations and implemented statutes to protect the environment and to control the generation, handling, treatment, storage, and disposal of hazardous materials and waste substances.

Because of their length, and for ease of reading, the tables in this chapter are presented consecutively at the end of the text. Table 10.4-1 lists the applicable Federal environmental statutes, regulations, and Executive Orders, and also identifies the associated permits, approvals, and consultations generally required to site, construct, or operate stockpile stewardship and management facilities. Except for limited presidential exemptions, Federal agencies must comply with all applicable provisions of Federal environmental statutes and regulations, in addition to all applicable State and local requirements. Table 10.4-2 lists selected DOE ES&H orders that apply to all sites, but which may affect each site differently.

DOE has entered into agreements with regulatory agencies on behalf of all of DOE facilities being considered in this Supplemental Programmatic Environmental Impact Statement (SPEIS). These agreements normally establish a schedule for achieving full compliance at these DOE facilities. Table 10.4-3 lists those environmental agreements and consent orders that DOE has with Federal and State regulatory agencies. These agreements and consent orders are generally available from the regulatory agency that is a party to the agreement, normally the State environmental department or EPA region, and also from the local DOE information resource center or reading room.

10.4 STATE ENVIRONMENTAL, SAFETY & HEALTH REQUIREMENTS

Table 10.4-4 lists the potential requirements imposed by the major State environmental statutes and regulations applicable to the proposed action and alternatives. These requirements apply to

Federal activities within the jurisdiction of the enforcing authority. Just as Table 10.4-1 identifies requirements based on Federal laws, Table 10.4-4 identifies the permits, approvals, and consultations generally required to site, construct, or operate DOE facilities in accordance with state statutes and regulations.

Table 10.4-1—Federal Environmental, Safety & Health Statutes, Regulations, and Orders

Resource Category	Statute/Regulation/Order	Citation	Responsible Agency	Potential Applicability
Air and Noise	<i>Clean Air Act</i> of 1970, as amended	42 U.S.C. 7401 <i>et seq.</i>	EPA	Requires sources to meet standards and obtain permits to satisfy; National Ambient Air Quality Standards, State Implementation Plans, Standards of Performance for New Stationary Sources, National Emission Standards for Hazardous Air Pollutants, and Prevention of Significant Deterioration.
	National Ambient Air Quality Standards/State Implementation Plans	42 U.S.C. 7409 <i>et seq.</i>	EPA	Requires compliance with primary and secondary ambient air quality standards governing sulfur dioxide, nitrogen oxide, carbon monoxide, ozone, lead, and particulate matter and emission limits/reduction measures as designated in each State's implementation plan.
	Standards of Performance for New Stationary Sources	42 U.S.C. 7411	EPA	Establishes emission standards and recordkeeping requirements for new or modified sources specifically addressed by a standard.
	National Emissions Standards for Hazardous Air Pollutants	42 U.S.C. 7412	EPA	Requires sources to comply with emission levels of carcinogenic or mutagenic pollutants; may require a preconstruction approval depending on the process being considered and the level of emissions that will result from the new or modified source.
	Prevention of Significant Deterioration	42 U.S.C. 7470 <i>et seq.</i>	EPA	Applies to areas that are in compliance with National Ambient Air Quality Standards. Requires comprehensive preconstruction review and the application of Best Available Control Technology to major stationary sources (emissions of 100 tons/yr) and major modifications; requires a preconstruction review of air quality impacts and the issuance of a construction permit from the responsible State agency setting forth emission limitations to protect the Prevention of Significant Deterioration increment.
	<i>Noise Control Act</i> of 1972, as amended	42 U.S.C. 4901 <i>et seq.</i>	EPA	Requires facilities to maintain noise levels that do not jeopardize public health and safety.
Water	<i>Clean Water Act</i> , as amended	33 U.S.C. 1251 <i>et seq.</i>	EPA	Requires EPA or state-issued permits and compliance with provisions of permits regarding discharge of effluents (pollutants) to surface waters.
	National Pollutant Discharge Elimination System (section 402 of the CWA)	33 U.S.C. 1342	EPA	Requires permit to discharge effluents and storm waters to surface waters; permit modifications are required if discharge effluents are altered.
	Dredged or Fill Material (section 404 of the CWA), <i>Rivers and Harbors Appropriations Act</i> of 1899	33 U.S.C. 1344/ 33 U.S.C. 401 <i>et seq.</i>	U.S. Army Corps of Engineers (USACE)	Requires permits to authorize the discharge of dredged or fill material into navigable waters or wetlands and to authorize certain work in or structures affecting navigable waters.

Table 10.4-1—Federal Environmental, Safety & Health Statutes, Regulations, and Orders (continued)

Resource Category	Statute/Regulation/Order	Citation	Responsible Agency	Potential Applicability
Water (cont'd)	<i>Wild and Scenic Rivers Act</i> of 1968	16 U.S.C. 1271 <i>et seq.</i>	U.S. Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), U.S. Forest Service (USFS), National Park Service (NPS)	Consultation required before construction of any new Federal project associated with a river designated as wild and scenic or under study in order to minimize and mitigate any adverse effects on the physical and biological properties of the river.
	<i>Safe Drinking Water Act</i> of 1974, as amended	42 U.S.C. 300f <i>et seq.</i>	EPA	Requires permits for construction/operation of underground injection wells and subsequent discharging of effluents to ground aquifers.
	Executive Order 11988: Floodplain Management	3 CFR, 1977 Comp., p. 117	Water Resources Council, Federal Emergency Management Agency (FEMA), Council on Environmental Quality (CEQ)	Requires consultation if project impacts a floodplain.
	Executive Order 11990: Protection of Wetlands	3 CFR, 1977 Comp., p. 121	USACE, USFWS	Requires Federal agencies to avoid the long- and short-term adverse impacts associated with the destruction or modification of wetlands.
	Compliance with Floodplain/Wetlands Environmental Review Requirements	10 CFR 1022	DOE	Requires DOE to comply with all applicable floodplain/wetlands environmental review requirements.
Hazardous Wastes and Soils	<i>Resource Conservation and Recovery Act/Hazardous and Solid Waste Amendments</i> of 1984	42 U.S.C. 6901 <i>et seq.</i> /PL 98-616	EPA	Requires notification and permits for operations involving hazardous waste treatment, storage, or disposal facilities; changes to site hazardous waste operations could require amendments to hazardous waste permits.
	<i>Comprehensive Environmental Response, Compensation, and Liability Act</i> of 1980/ <i>Superfund Amendments and Reauthorization Act</i> of 1986	42 U.S.C. 9601 <i>et seq.</i> /PL 99-499	EPA	Requires cleanup and notification if there is a release or threatened release of a hazardous substance; requires DOE to enter into Interagency Agreements with the EPA and State to control the cleanup of each DOE site on the National Priorities List.

Table 10.4-1—Federal Environmental, Safety & Health Statutes, Regulations, and Orders (continued)

Resource Category	Statute/Regulation/Order	Citation	Responsible Agency	Potential Applicability
Hazardous Wastes and Soils (cont'd)	Executive Order 12580: Superfund Implementation	3 CFR, 1987 Compilation., p. 193	EPA	DOE shall comply with the National Contingency Plan in addition to the other requirements of the order, as amended.
	<i>Community Environmental Response Facilitation Act</i> of 1992	PL 102-426	EPA	Amends the <i>Comprehensive Environmental Response, Compensation, and Liability Act</i> to establish a process for identifying, prior to the termination of Federal activities, property that does not contain contamination. Requires prompt identification of parcels that will not require remediation to facilitate the transfer of such property for economic redevelopment purposes.
	<i>Farmland Protection Policy Act</i> of 1981	7 U.S.C. 4201 <i>et seq.</i>	Soil Conservation Service	DOE shall avoid any adverse effects to prime and unique farmlands.
	<i>Federal Facility Compliance Act</i> of 1992	42 U.S.C. 6961	States	Waives sovereign immunity for Federal facilities under the <i>Resource Conservation and Recovery Act</i> and requires DOE to develop plans and enter into agreements with states as to specific management actions for specific mixed waste streams.
Biotic	<i>Fish and Wildlife Coordination Act</i> of 1934	16 U.S.C. 661 <i>et seq.</i>	USFWS	Requires consultation on the possible effects on wildlife if there is construction, modification, or control of bodies of water in excess of 10 acres (4 hectares) surface area.
	<i>Bald and Golden Eagle Protection Act</i> of 1973, as amended	16 U.S.C. 668 <i>et seq.</i>	USFWS	Consultations should be conducted to determine if any protected birds are found to inhabit the area. If so, DOE must obtain a permit prior to moving any nests due to construction or operation of project facilities.
	<i>Migratory Bird Treaty Act</i> of 1918, as amended	16 U.S.C. 703 <i>et seq.</i>	USFWS	Requires consultation to determine if there are any impacts on migrating bird populations due to construction or operation of project facilities. If so, DOE will develop mitigation measures to avoid adverse effects.
	Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds	66 FR 3853	USFWS	DOE shall take measures to develop and implement a Memorandum of Understanding (MOU) with the U.S. Fish and Wildlife Service that shall promote the conservation of migratory bird populations.
Biotic (cont'd)	<i>Wilderness Act</i> of 1964	16 U.S.C. 1131 <i>et seq.</i>	Department of Commerce (DOC), Department of Interior (DOI)	DOE shall consult with the Department of Commerce and Department of the Interior (DOI) and minimize impacts.
	<i>Wild Free-Roaming Horses and Burros Act</i> of 1971	16 U.S.C. 1331 <i>et seq.</i>	DOI	DOE shall consult with the DOI and minimize impacts.

Table 10.4-1—Federal Environmental, Safety & Health Statutes, Regulations, and Orders (continued)

Resource Category	Statute/Regulation/Order	Citation	Responsible Agency	Potential Applicability
	<i>Endangered Species Act of 1973</i>	16 U.S.C. 1531 <i>et seq.</i>	USFWS, National Marine Fisheries Service (NMFS)	Requires consultation to identify endangered or threatened species and their habitats, assess DOE impacts thereon, obtain necessary biological opinions, and, if necessary, develop mitigation measures to reduce or eliminate adverse effects of construction or operations.
Cultural	<i>National Historic Preservation Act of 1966, as amended</i>	16 U.S.C. 470 <i>et seq.</i>	President's Advisory Council on Historic Preservation	DOE shall consult with the State Historic Preservation Office prior to construction to ensure that no historical properties will be affected.
	Executive Order 13007: Indian Sacred Sites	61 FR 26771	DOE	DOE shall accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoid adversely affecting the physical integrity of such sacred sites.
	Executive Order 13175: Consultation and Coordination With Indian Tribal Governments	65 FR 67249	DOE	DOE shall establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies with tribal implications, strengthen U.S. government-to-government relations with Indian tribes, and reduce imposition of unfunded mandates upon Indian tribes.
	<i>Archaeological and Historical Preservation Act of 1974</i>	16 U.S.C. 469 <i>et seq.</i>	DOI	DOE shall obtain authorization for any disturbance of archeological resources.
	<i>Archaeological Resources Protection Act of 1979</i>	16 U.S.C. 470aa <i>et seq.</i>	DOI	DOE shall obtain authorization for any excavation or removal of archeological resources.
	<i>Antiquities Act of 1906</i>	16 U.S.C. 431-33	DOI	DOE shall comply with all applicable sections of the act.
	<i>American Indian Religious Freedom Act of 1978</i>	42 U.S.C. 1996	DOI	DOE shall consult with local Native American Indian tribes prior to construction to ensure that their religious customs, traditions, and freedoms are preserved.
	<i>Native American Graves Protection and Repatriation Act of 1990</i>	25 U.S.C. 3001	DOI	DOE shall consult with local Native American Indian tribes prior to construction to guarantee that no Native American graves are disturbed.
	Executive Order 11593: Protection and Enhancement of the Cultural Environment	3 CFR 154, 1971-1975 Compilation, p. 559	DOI	DOE shall aid in the preservation of historic and archeological data that may be lost during construction activities.

Table 10.4-1—Federal Environmental, Safety & Health Statutes, Regulations, and Orders (continued)

Resource Category	Statute/Regulation/Order	Citation	Responsible Agency	Potential Applicability
Worker Safety and Health	<i>Occupational Safety and Health Act</i> of 1970	5 U.S.C. 651	Occupational Safety and Health Administration	DOE shall comply with all applicable worker safety and health legislation (including guidelines of 29 CFR Part 1960) and prepare, or have available in the workplace, Material Safety Data Sheets.
	Hazard Communication Standard	29 CFR 1910.1200	OSHA	DOE shall ensure that workers are informed of, and trained to handle, all chemical hazards in the DOE workplace.
Other	<i>Atomic Energy Act</i> of 1954, as amended	42 U.S.C. 2011	EPA and DOE	DOE shall follow its own standards and procedures to ensure the safe operation of its facilities.
	<i>National Environmental Policy Act</i> of 1969, as amended	Under the authority of 42 U.S.C. 4321 <i>et seq.</i> and in accordance with 10 CFR Part 1021	CEQ and DOE	DOE shall comply with NEPA implementing procedures.
	<i>Uranium Mill Tailings Radiation Control Act</i> of 1978	42 U.S.C. 7901 <i>et seq.</i>	EPA	DOE shall enforce and implement health and environmental standards and acquire licenses when required.
	<i>Toxic Substances Control Act</i> of 1976	15 U.S.C. 2601 <i>et seq.</i>	EPA	DOE shall comply with inventory reporting requirements and chemical control provisions of TSCA to protect the public from the risks of exposure to chemicals; TSCA imposes strict limitations on use and disposal of polychlorinated biphenyl-contaminated equipment.
	<i>Hazardous Materials Transportation Act</i> of 1975, as amended	49 U.S.C. 1801 <i>et seq.</i>	DOT	DOE shall comply with the requirements governing hazardous materials and waste transportation.
	<i>Hazardous Materials Transportation Uniform Safety Act</i> of 1990	49 U.S.C. 1801	DOT	Restricts shippers of highway route-controlled quantities of radioactive materials to use-only permitted carriers.
	<i>Emergency Planning and Community Right-To-Know Act</i> of 1986	42 U.S.C. 11001 <i>et seq.</i>	EPA	Requires the development of emergency response plans and reporting requirements for chemical spills and other emergency releases, and imposes right-to-know reporting requirements covering storage and use of chemicals which are reported in toxic chemical release forms.

Table 10.4-1—Federal Environmental, Safety & Health Statutes, Regulations, and Orders (continued)

Resource Category	Statute/Regulation/Order	Citation	Responsible Agency	Potential Applicability
	<i>Pollution Prevention Act of 1990 under the provision of the Superfund Amendments and Reauthorization Act (SARA).</i>	42 U.S.C. 13101 and section 313 of SARA	EPA	Establishes a national policy that pollution should be reduced at the source and requires a toxic chemical source reduction and recycling report for an owner or operator of a facility required to file an annual toxic chemical release form under section 313 of SARA .
Other (cont'd)	Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations as amended by Executive Order 12948	3 CFR, 1994, Compilation, p. 859 February 11, 1994 amended January 30, 1995	EPA	Requires Federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.
	Executive Order 12088: Federal Compliance with Pollution Control Standards, as amended by Executive Order 12580 added “Superfund Implementation” to the end of Executive Order 12088	3 CFR, 1978 Compilation, p. 243	Office of Management and Budget (OMB)	Requires Federal agencies landlords to submit to OMB an annual plan for the control of environmental pollution and to consult with EPA and State agencies regarding the best techniques and methods.
	Executive Order 13423 Strengthening Federal Environmental, Energy, and Transportation Management	72 FR 3919 January 26, 2007	DOE, CEQ,OMB and the Federal Environmental Executive	Requires Federal agencies to employ a range of actions to reduce energy and water consumption, use of efficient vehicles and energy conservation in new buildings
	Executive Order 11514: Protection and Enhancement of Environmental Quality	3 CFR, 1966-1970 Compilation., p. 902	CEQ	Requires Federal agencies to demonstrate leadership in achieving the environmental quality goals of NEPA; provides for DOE consultation with appropriate Federal, State, and local agencies in carrying out their activities as they affect the environment.

Table 10.4-1—Federal Environmental, Safety & Health Statutes, Regulations, and Orders (continued)

Resource Category	Statute/Regulation/Order	Citation	Responsible Agency	Potential Applicability
	<i>Nuclear Waste Policy Act of 1982</i>	Under the authority of 42 U.S.C. 10810101 <i>et seq.</i> and in accordance with 40 CFR Part 191	EPA	DOE shall dispose of radioactive waste.
	<i>Low-Level Radioactive Waste Policy Act of 1954</i>	42 U.S.C. 2021b-2021d	DOE	DOE shall dispose of low-level radioactive wastes in accordance with the States in which it operates.

Table 10.4-2—Selected Department of Energy Orders

DOE Order	Title
231.1A	Environmental Safety and Health Reporting
414.1C	Quality Assurance
420.1B	Facility Safety
430.1B	Real Property Asset Management
430.2.B	Renewable Energy and Transportation Management
435.1	Radioactive Waste Management
440.1B	Worker Protection Management for DOE Federal and Contractor Employees
450.1A	Environmental Protection Program
451.1B	National Environmental Policy Act Compliance Program
460.1B	Packaging and Transportation Safety
460.2B	Departmental Materials Transportation and Packaging Management
461.1A	Packaging and Transfer or Transportation of Materials of National Security Interest
470.4A	Safeguards and Security Program
5400.5	Radiation Protection of the Public and Environment
5480.4	Environmental Protection, Safety, and Health Protection Standards
5480.19	Conduct of Operations Requirements for DOE Facilities

Table 10.4-3—Agreements With Federal and State Environmental Regulatory Agencies

DOE Facility	Resource Category	Parties	Scope of Agreement	Effective Date
LANL	Water	DOE/EPA	CWA-NPDES compliance agreement	1991
	Water/Soil	DOE/NMED	The Compliance Order on Consent pertains to waste site investigations, corrective actions, and monitoring. IV.A.5 of the Order relates to Firing Sites, specifically deferring investigation or corrective action at active firing sites.	2005
LLNL, SNL/CA	Water	DOE/EPA/CA-RWQCB, CA-Dept. Health Services	Federal Facility Agreement-Regulates groundwater cleanup activities at LLNL under CERCLA/SARA Section 120	1988
	Water/Soil	DOE/EPA/CAEPA Department of Toxic Substances Control/RWQCB	CERCLA-Federal Facility Agreement describes the groundwater and soil investigations to be conducted at Site 300 and specifies reporting dates.	1992
	Air/Soil	DOE/EPA/CAEPA Department of Toxic Substances Control	Hazardous Waste Compliance Agreement 92/93-031 governing open burning of explosives wastes at Site 300.	1992
SNL/NM	Soil	DOE/NM	RCRA-Groundwater monitoring at chemical waste landfill	1989
SRS	Air	DOE/EPA	CAA-FFCA, Radionuclide NESHAP	1991
	Soil	DOE/SC	RCRA-Settlement Agreement 87-52-SW with amendment, Part B application deficiencies; groundwater monitoring	1987, 1991
	Soil	DOE/EPA	RCRA-FFCA for land disposal restrictions, with amendment 1, Docket No. 91-01-FFR	1991, 1992
	Soil	DOE/EPA/SC	CERCLA/RCRA-Federal Facility Agreement	1993
	Cultural	DOE/SHPO ACHP	Programmatic Memorandum of Agreement—Management of Archaeological Sites	1990

**Table 10.4-3—Agreements With Federal and State Environmental Regulatory Agencies
(continued)**

DOE Facility	Resource Category	Parties	Scope of Agreement	Effective Date
ORR, Y-12	Air	DOE/EPA	CAA-FFCA, Radionuclide NESHAP	1992
	Soil	DOE/EPA/TN	CERCLA-Federal Facility Agreement	1992
	Soil	DOE/EPA	RCRA-FFCA for storage of mixed waste subject to land disposal restrictions	1992
	Soil	DOE/EPA/TN	Federal Facility Compliance Act Commissioners Order ORR Site-Specific Treatment Plan for Mixed Waste	1995
	All except Radiological	DOE/TN Dept. of Environment and Conservation	Oversight of environmental monitoring programs	1991
	Cultural	DOE/TN	DOE commitment to prepare a cultural resource management plan for ORR and to conduct a survey to identify significant historical properties located within the ORR; interim programmatic exclusions from Section 106 review	1994
NTS	Air/Water	DOE/NV	Agreement in Principle for DOE to provide funding to Nevada for oversight of environmental, safety and health activities	1990
	Soil	DOE/NV	RCRA-Settlement Agreement-TRU mixed waste	1992
	Cultural	DOE/NV	Programmatic Agreement-Archaeological and Historic Preservation activities	1993
	Water/Soil	DOE/NV/DoD	Federal Facility Agreement and Consent Order outlines a schedule for cleanup and monitoring commitments	1996
Pantex	Soil	DOE/EPA	RCRA-Section 3008 (h) Administrative Order on Consent	1990
TTR	Soil	DOE/NV/DoD	FFCA	1996
WSMR	Cultural	DOE/NM	As per an agreement between WSMR and the State Historic Preservation Office (SHPO) construction of new permanent structures is not permitted within the boundaries of the Trinity National Historic Landmark.	
	Biotic	U.S. Army/National Parks Service/U.S. Fish and Wildlife Service/New Mexico Department of Game and Fish	Cooperative agreement for protection and maintenance of the White Sands pupfish	1994

Table 10.4-4—State Environmental, Safety & Health Requirements

Resource Category	Legislation	Citation	Responsible Agency	Potential Applicability
<i>New Mexico (LANL, SNL, WSMR)</i>				
Air	<i>New Mexico Air Quality Control Act</i>	NM Stat., Title 74, Article 2	NM Environment Department	Permit required prior to the construction or modification of an air contaminant source.
	New Mexico Air Quality Standards and Regulations	NM Air Quality Control Regulations, 100	NM Environment Department	Permit required prior to the construction or modification of an air contaminant source.
Water	<i>New Mexico Water Quality Act</i>	NM Stat., Title 74, Article 6	NM Water Quality Control Commission	Permit required prior to the construction or modification of a water discharge source.
	New Mexico Water Quality Regulations	NM Water Regulations	NM Water Quality Control Commission	Permit required prior to the construction or modification of a water discharge source.
Hazardous Wastes and Soils	<i>New Mexico Solid Waste Act</i>	NM Stat., Chap. 74, Article 8	NM Environment Department	Permit required prior to the construction or modification of a solid waste disposal facility.
	New Mexico Solid Waste Management Regulations	NM Solid Waste Mgmt. Regulations	NM Environment Department	Permit required prior to the construction or modification of a solid waste disposal facility.
	New Mexico Hazardous Waste Management Regulations	NM Hazardous Waste Mgmt. Regulations	NM Environment Department	Permit required prior to the construction or modification of a hazardous waste disposal facility.
	New Mexico Underground Storage Tank Regulations	NM Underground Storage Tank Regulations	NM Environment Department	Permit required to comply with tank requirements prior to the construction or modification of an underground storage tank.
Biotic	<i>New Mexico Wildlife Conservation Act</i>	NM State Act 1978, Sections 17-2-37 through 17-2-46	NM Department of Game and Fish	Permit and coordination required if a project may disturb habitat or otherwise affect threatened or endangered species.
	<i>New Mexico Endangered Plant Species Act</i>	NM State Act 1978, Sections 75-6-1	NM State Forestry Department	Coordination with the department required.
Cultural	<i>New Mexico Cultural Properties Act</i>	NM State Act 1978, Sections 18-6-1 through 18-6-23	NM State Historic Preservation Office	Established State Historic Preservation Office and requirements to prepare an archaeological and historic survey and consult with the State Historic Preservation Office.

Table 10.4-4—State Environmental, Safety & Health Requirements (continued)

Resource Category	Legislation	Citation	Responsible Agency	Potential Applicability
<i>California (LLNL)</i>				
Air	<i>California Clean Air Act</i>	CA Health and Safety Code, Sections 39000 <i>et seq.</i>	CA Environmental Protection Agency, Air Resources Board and local districts	Permit required prior to construction or modification of an air contaminant source.
	<i>Air Toxics "Hot Spots" Information and Assessments Act</i>	CA Health and Safety Code, Sections 44300 <i>et seq.</i>	CA Environmental Protection Agency, Air Resources Board and local districts	Screening Risk Assessment required to estimate human health impacts to a resident living near the boundary of the site.
	<i>California Global Solutions Act of 1966</i>	AB32	CA Environmental Protection Agency, Air Resources Board and local districts	Establishes a comprehensive program of regulatory and market mechanisms to achieve reductions of greenhouse gas emissions.
	<i>California Environmental Quality Act</i>	CA Public Resources Code, section 21081.6	CA Environmental Protection Agency	Requires evaluation of environmental impacts associated with permitting decisions.
Water	<i>California Porter-Cologne Water Quality Act</i>	Water Code, Sections 13000 <i>et seq.</i>	CA Environmental Protection Agency, Water Resources Control Board and Regional Water Quality Control Boards	Permit required prior to construction or modification of water discharges sources.
	<i>California Environmental Quality Act</i>	CA Public Resources Code, section 21081.6	CA Environmental Protection Agency	Requires evaluation of environmental impacts associated with permitting decisions.
Hazardous Wastes and Soils	<i>California Hazardous Waste Control Act</i>	CA Health and Safety Code, Sections 25100 <i>et seq.</i>	CA Environmental Protection Agency, Department of Toxic Substances Control	Permit required prior to construction or modification of hazardous waste management facility.
	<i>The Hazardous Waste Source Reduction and Management Review Act of 1989</i>	CA Health and Safety Code, Sections 25244.12 <i>et seq.</i>	CA Environmental Protection Agency, Department of Toxic Substances Control	Requires reports and plans describing how mandatory percentage reductions in waste streams will be achieved.
	"Hazardous Materials" Department of the California Highway Patrol	13 C.C.R., Chapter 6	CA Highway Patrol	Defines routes, stopping places, and rules of the road for transportation of hazardous materials.
	<i>California Environmental Quality Act</i>	CA Public Resources Code, section 21081.6	CA Environmental Protection Agency	Requires evaluation of environmental impacts associated with permitting decisions.

Table 10.4-4—State Environmental, Safety & Health Requirements (continued)

Resource Category	Legislation	Citation	Responsible Agency	Potential Applicability
Biotic	<i>California Endangered Species Act</i>	CA Fish and Game Code, Sections 2050-2098	CA Department of Fish and Game	States that agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species or result in destruction or adverse modification of habitat essential to the continued existence of those species if conservation alternatives are reasonable and prudent.
Cultural	<i>California Environmental Quality Act</i>	CA Public Resources Code, Section 21083.2	CA Office of Planning and Research	Requires consideration of the effects of a project on prehistoric and historic cultural resources.
South Carolina and Georgia (SRS)				
Air	<i>South Carolina Pollution Control Act/South Carolina Air Pollution Control Regulations and Standards</i>	SC Code, Title 48, Chapter 1	SC Dept. of Health and Environmental Control (SCDHEC)	Permit required prior to construction or modification of an air contaminant source.
	Augusta-Aiken Air Quality Control Region	40 CFR 81.114	SC and GA	Requires SRS and surrounding communities in the 2-state region to attain National Ambient Air Quality Standards (NAAQS).
	<i>South Carolina Atomic Energy & Radiation Control Act</i>	SC Code, Title 13, Chapter 7	SCDHEC	Establishes standards for radioactive air emissions.
Water	<i>South Carolina Pollution Control Act</i>	SC Code, Title 48, Chapter 1	SCDHEC	Permit required prior to construction or modification of a water discharge source.
	South Carolina Water Quality Standards	SC Code, Title 61, Chapter 68	SCDHEC	Permit required prior to construction or modification of a water discharge source.
	<i>South Carolina Safe Drinking Water Act</i>	SC Code, Title 44, Chapter 55	SCDHEC	Establishes drinking water standards.
Hazardous Wastes and Soils	<i>South Carolina Underground Storage Tanks Act</i>	SC Code, Title 44, Chapter 2	SCDHEC	Permit required prior to construction or modification of an underground storage tank.
	South Carolina Solid Waste Regulations	SC Code, Title 61, Chapter 60	SCDHEC	Permit required to store, collect, dispose, or transport solid wastes.

Table 10.4-4—State Environmental, Safety & Health Requirements (continued)

Resource Category	Legislation	Citation	Responsible Agency	Potential Applicability
Hazardous Wastes and Soils	South Carolina Industrial Solid Waste Disposal Site Regulations	SC Code, Title 61, Chapter 66	SC Pollution Control Authority	Permit required for industrial solid waste disposal systems.
	<i>South Carolina Hazardous Waste Management Act</i>	SC Code, Title 44, Chapter 56	SCDHEC	Permit required to operate, construct, or modify a hazardous waste treatment, storage, or disposal facility.
	South Carolina Solid Waste Management Act	SC Code, Title 44, Chapter 96	SCDHEC	Establishes standards to treat, store, or dispose of solid waste.
Biotic	<i>South Carolina Nongame and Endangered Species Conservation Act</i>	SC Code, Title 50, Chapter 15	SC Department of Natural Resources	Consult with SC Wildlife and Marine Resources Department and minimize impact.
Cultural	South Carolina Institute of Archaeology and Anthropology	SC Code, Title 60, Chapter 13-210	SC State Historic Preservation Office	Consult with SC State Historic Preservation Office and minimize impact.
Tennessee (Y-12)				
Air	Tennessee Air Pollution Control Regulations	TN Rules, Division of Air Pollution	TN Air Pollution Control Board	Permit required to construct, modify, or operate an air contaminant source; sets fugitive dust requirements.
Water	<i>Tennessee Water Quality Control Act</i>	TN Code, Title 69, Chapter 3	TN Water Quality Control Board	Authority to issue new or modify existing NPDES permits required for a water discharge source.
Hazardous Wastes and Soils	Tennessee Underground Storage Tank Program Regulations	TN Rules, Chapter 1200-1-15	TN Division of UST Programs	Permit required prior to construction or modification of an underground storage tank.
	<i>Tennessee Hazardous Waste Management Act</i>	TN Code, Title 68, Chapter 46	TN Division of Solid Waste Management	Permit required to construct, modify, or operate a hazardous waste treatment, storage, or disposal facility.
	Tennessee Solid Waste Processing and Disposal Regulations	TN Rules, Chapter 1200-1-7	TN Division of Solid Waste Management	Permit required to construct or operate a solid waste processing or disposal facility.
Biotic	Tennessee State Executive Order on Wetlands	TN State Executive Order	TN Division of Water Quality Control	Consultation with responsible agency.
	<i>Tennessee Threatened Wildlife Species Conservation Act of 1974</i>	TN Code, Title 70, Chapter 8	TN Wildlife Resources Agency	Consultation with responsible agency.

Table 10.4-4—State Environmental, Safety & Health Requirements (continued)

Resource Category	Legislation	Citation	Responsible Agency	Potential Applicability
	<i>Tennessee Rare Plant Protection and Conservation Act</i> of 1985	TN Code, Title 70, Chapter 8-301 <i>et seq.</i>	TN Wildlife Resources Agency	Consultation with responsible agency.
	<i>Tennessee Water Quality Control Act</i>	TN Code, Title 69, Chapter 3	TN Division of Water Quality Control	Permit required prior to alteration of a wetland.
Cultural	Tennessee Desecration of Venerated Objects	TN Code, Title 39, Chapter 17-311	TN Historical Commission	Forbids a person to offend or intentionally desecrate venerated objects including a place of worship or burial.
	Tennessee Abuse of Corpse	TN Code, Title 39, Chapter 17-312	TN Historical Commission	Forbids a person from disinterring a corpse that has been buried or otherwise interred.
	Native American Indian Cemetery Removal and Reburial	TN Comp. Rules and Regulations, Chapter 400-9-1	TN Historical Commission	Requires notification if Native American Indian remains are uncovered.
	Tennessee Protective Easements	TN Code, Title 11, Chapter 15-101	TN State Government	Grants power to the state to restrict construction on land deemed as a "protective" easement.
Nevada (NTS, TTR)				
Air	Nevada Air Pollution Control Law	NV Statutes, Title 40	NV State Environmental Commission	Permit required prior to construction or modification of an air contaminant source.
	Nevada Air Quality Regulations	NV Admin. Code, Chapter 445	NV State Environmental Commission	Permit required prior to construction or modification of an air contaminant source.
Water	Nevada Water Pollution Control Law	NV Statutes, Title 40, Chapter 445	NV Division of Environmental Protection	Permit required prior to construction or modification of a water discharge source.
	Nevada Water Pollution Control Regulations	NV Admin. Code, Chapter 445	NV Division of Environmental Protection	Permit required prior to construction or modification of a water discharge source.
Hazardous Wastes and Soils	Nevada Underground Storage Tank Rules	NV Admin. Code, Chapter 459	NV Division of Environmental Protection	Permit required prior to construction or modification of an underground storage tank.
Hazardous Wastes and Soils (cont'd)	Nevada Solid Waste Disposal Law	NV Statutes, Title 40, Chapter 444	NV Division of Environmental Protection	Permit required prior to construction or modification of a solid waste disposal facility.

Table 10.4-4—State Environmental, Safety & Health Requirements (continued)

Resource Category	Legislation	Citation	Responsible Agency	Potential Applicability
	Nevada Solid Waste Disposal Regulations	NV Admin. Code, Chapter 44	NV Division of Environmental Protection	Permit required prior to construction or modification of a solid waste disposal facility; permit for septage hauling may be required.
	Nevada Hazardous Waste Disposal Law	NV Statutes, Title 40, Chapter 459	NV Division of Environmental Protection	Permit required prior to construction or modification of a hazardous waste disposal facility.
	Nevada Hazardous Waste Facility Regulations	NV Admin. Code, Chapter 444	NV Division of Environmental Protection	Permit required prior to construction or modification of a hazardous waste disposal facility.
Biotic	<i>Nevada Non-Game Species Act</i>	NV Admin. Code, Title 45, Chapter 503	NV Department of Wildlife	Consult with NV Department of Wildlife and minimize impact.
Cultural	Historic Preservation and Archaeology Regulations	NV Statutes, Title 26, Chapters 381-383	NV Advisory Board for Historic Preservation and Archaeology	Permit required prior to the investigation, exploration, or excavation of a historic or prehistoric site.
<i>Texas (Pantex)</i>				
Air	Texas Air Pollution Control Regulations	TX Admin. Code, Title 30, Chapter 101-125, 305	TX Natural Resource Conservation Commission	Permit required prior to construction or modification of an air contaminant source.
Water	Texas Water Quality Standards	TX Admin. Code, Title 30, Chapter 305, 308-325	TX Natural Resource Conservation Commission	Permit may be required prior to any modification of waters of the state including stream alteration for the construction of intakes, discharges, bridges, submarine utility crossings, etc.
	Texas Consolidated Permit Rules	TX Admin. Code, Title 30	TX Natural Resource Conservation Commission	Permit may be required prior to any modification of waters of the state including stream alteration for the construction of intakes, discharges, bridges, submarine utility crossings, etc.
Hazardous Wastes and Soils (cont'd)	<i>Texas Water Quality Acts</i>	TX Code, Title 30, Chapter 290	TX Natural Resource Conservation Commission	Permit may be required prior to any modification of waters of the state including stream alteration for the construction of intakes, discharges, bridges, submarine utility crossings, etc.

Table 10.4-4—State Environmental, Safety & Health Requirements (continued)

Resource Category	Legislation	Citation	Responsible Agency	Potential Applicability
	Texas Underground Storage Tanks Rules	TX Admin. Code, Title 30, Chapter 334	TX Natural Resource Conservation Commission	Permit required prior to construction or modification of an underground storage tank.
	Texas Solid Waste Management Regulations	TX Admin. Code, Title 30, Chapter 305, 335	TX Natural Resource Conservation Commission	Permit required prior to construction or modification of a solid waste disposal facility.
	<i>Texas Solid Waste Disposal Act</i>	TX Admin. Code, Title 30, Chapter 305, 334, and 335	TX Natural Resource Conservation Commission	Permit required prior to construction or modification of a solid waste disposal facility.
Biotic	Texas Parks and Wildlife Regulations	TX Parks and Wildlife Code, Chapter 67, 68, and 88	TX Parks and Wildlife Department	Permit required by anyone who possesses, takes, or transports endangered, threatened, or protected plants or animals.
Cultural	Antiquities Code of Texas	TX Statutes, Volume 17, Article 6145	TX State Historical Survey Committee	Permit required for the examination or excavation of sites and the collection or removal of objects of antiquity.

10.5 ALTERNATIVE-SPECIFIC INFORMATION

10.5.1 Additional Requirements

Under any alternative, new or modified permits would be needed prior to construction or operation of the proposed facilities. These permits regulate many aspects of facility construction and operations, such as treatment and storage of hazardous waste and discharges of airborne or liquid effluents to the environment. Permits would be obtained through the appropriate Federal, State, or local agencies. As with consultations, a more detailed analysis of the required permits and/or approvals would occur as part of the second-tiered SPEIS that DOE will prepare after a decision is made based on the siting alternatives evaluated in this SPEIS. In addition to permitting, the following sections discuss site-specific requirements that would apply to construction and operation of the proposed facilities.

10.5.1.1 *Los Alamos Site Alternative*

Hazardous waste facility permit. The New Mexico Environment Department (NMED) issued the original RCRA permit for Los Alamos National Laboratory's (LANL's) waste management operations at technical areas (TA)-50, -54, and -16 on November 8, 1989, for a term of 10 years. On January 15, 1999, LANL submitted an application for a permit renewal for TA-54. That application also covered the hazardous waste container storage areas at TA-3 and TA-16, and at TA-54's Area G, Area L, and TA-54 west; hazardous waste treatment by solidification, cementation, and vitrification at TA-55; and hazardous waste treatment by burning and detonation at TA-14 and burning at TA-16. It includes general statements that corrective action

will be conducted for releases of hazardous wastes and hazardous constituents at these areas. The original permit expired after 10 years, but was administratively continued pending the NMED review of LANL's permit renewal application. LANL continues to work on the application process to renew its Hazardous Waste Facility Permit and to respond to information requests from NMED about the history of hazardous waste generation and management at LANL.

LANL is not listed on EPA's National Priorities List (NPL) but it follows some *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) guidelines for remediating sites that contain hazardous substances not covered by RCRA and/or that may not be included in Module VIII of the Hazardous Waste Facility Permit.

Resource Conservation and Recovery Act corrective action. On November 26, 2002, NMED issued a final order to DOE and the University of California pursuant to New Mexico Statutes Annotated 1978 Sections 74-4-10.1 and 74-4-13 of the *New Mexico Hazardous Waste Act* and the New Mexico Hazardous Waste Management Regulations 20.4 New Mexico Administrative Code. The order contains investigation and cleanup requirements and a schedule for implementation of cleanup measures at LANL. In the draft order issued on May 2, 2002, NMED made a determination that the past or present handling, storage, treatment, and/or disposal of solid or hazardous wastes at the LANL may present an imminent and substantial endangerment to health and the environment. LANL challenged that determination. LANL also commented that the Endangerment Determination and order seek to regulate source, special nuclear, and byproduct material, as defined in the *Atomic Energy Act* of 1954, which are exempt from regulation under RCRA and the *New Mexico Hazardous Waste Act*. DOE is pursuing legal challenges to the endangerment finding and regulatory authority issue.

The proposed facilities would not be expected to impact ongoing LANL remediation activities.

Site Treatment Plan. In October 1995, the State of New Mexico issued a Federal Facility Compliance Order to LANL requiring compliance with a Site Treatment Plan. The LANL Site Treatment Plan, which is updated annually, provides overall schedules for achieving compliance with RCRA land disposal restriction (LDR) storage and treatment requirements for mixed waste at LANL.

If LANL were selected as the site for a Consolidated Plutonium Center (CPC), DOE would include mixed transuranic (TRU) waste and mixed low level waste (MLLW) associated with proposed facilities operations in a future update to the LANL Site Treatment Plan.

10.5.2 Nevada Test Site Alternative (NTS)

NTS is subject to several formal compliance agreements with various regulatory agencies. Agreements with the State of Nevada include a memorandum of understanding covering releases of radioactivity; a Federal facility agreement and consent order, an agreement in principle covering environment, safety, and health activities; a settlement agreement to manage mixed TRU waste; and a mutual consent agreement on management of mixed low dose radiation (LDR) wastes, among others. A brief description of these agreements and their relationship to the proposed facilities follows.

Settlement Agreement. The Settlement Agreement, which was signed by DOE and the Nevada Department of Environmental Protection in June 1992, authorizes the temporary storage of only NTS's current inventory of mixed TRU waste. The storage of additional mixed TRU waste would require a permit. Mixed TRU waste is not normally generated at NTS; the majority of mixed TRU waste stored at NTS was generated offsite.

DOE would be required to seek a permit for storage of TRU waste associated with proposed facilities operations.

Federal facility agreement and consent order. The agreement is a triparty agreement with DOE, the State of Nevada, and the Department of Defense (DoD). The agreement, effective in May 1996, addresses environmental restoration of inactive contaminated sites at NTS and other sites in Nevada. The parties agreed to negotiate to address needed environmental restoration. The Order outlines a process for identifying, prioritizing, investigating, and remediating contaminated sites. It also establishes a technical strategy for cleanup activities, maximizes the opportunity to complete multiple corrective actions, and provides a mechanism for public involvement.

The proposed facilities would not be expected to impact NTS remediation activities under the Federal Facility Agreement and Consent Order.

Federal Facility Compliance Act consent order. The State of Nevada and DOE approved the order and its associated NTS Site Treatment Plan in March 1996. The order and plan address treatment of legacy mixed waste streams at NTS. Under a June 1998 revision to the order, new milestones and deadlines for mixed waste treatment must be proposed through annual updates to the Site Treatment Plan.

If NTS were selected as the site for the proposed facilities, DOE would include mixed TRU waste and mixed LLW associated with proposed facilities operations in a future update to the NTS Site Treatment Plan.

Mutual Consent Agreement. The Mutual Consent Agreement was signed by Nevada Operations Office and the State of Nevada in January 1994 and modified in June 1995 and 1998. The Mutual Consent Agreement authorizes the storage of newly identified mixed waste at the NTS Area 5. State of Nevada approval of a Treatment and Disposal Plan is required for mixed waste stored for greater than nine months.

DOE would manage MLLW generated from proposed facilities operations in accordance with the Mutual Consent Agreement. A Treatment and Disposal Plan would be prepared if storage of this waste for greater than nine months were required.

Agreement in principle. This agreement includes commitments with regard to DOE technical and financial support to the State of Nevada for environmental, safety, and health oversight and associated monitoring activities. The DOE Nevada Operations Office/State of Nevada Joint LLW Oversight Agreement was incorporated as an appendix to the agreement in principle. This appendix is a cooperative oversight arrangement between DOE and the State of Nevada and

grants the State an increased role in monitoring the management of LLW generated at the NTS, as well as LLW generated elsewhere and disposed at NTS. By entering into the agreement, DOE and the State of Nevada agree to share information concerning waste types and quantities, in addition to general information that allows the State to conduct detailed oversight of NTS waste disposal operations.

Under this Agreement, the State of Nevada would oversee the disposal of LLW associated with proposed facilities operations. This would occur under the NTS alternative, where LLW is generated and disposed of at NTS, as well as alternatives where LLW resulting from the operation of the proposed facilities is shipped to NTS for disposal (e.g., Pantex WIPP [Waste Isolation Pilot Plant]).

10.5.3 Pantex Site Alternative

Site Treatment Plan. DOE has prepared a Site Treatment Plan (known as the Compliance Plan) for mixed waste at Pantex, which identifies how DOE proposes to obtain commercial treatment or develop technologies for the site's MLLW. The Compliance Plan provides overall schedules for achieving compliance with LDR requirements for mixed wastes at Pantex and is enforceable under an Agreed Order issued by the Texas Natural Resource Conservation Commission (Texas Natural Resource Conservation Commission, now called the Texas Commission on Environmental Quality [TCEQ]). DOE provides annual updates to the Compliance Plan to the State for review and comment.

If Pantex were selected as the site for the proposed facilities, DOE would include mixed TRU waste and MLLW associated with operation of the proposed facilities in a future update to the Pantex Site Treatment Plan.

Hazardous waste permit. Pantex was included on the NPL in 1994. Corrective action requirements for environmental restoration at Pantex are included in the RCRA Hazardous Waste Operating Permit (HW-50284) administered jointly by EPA and the TCEQ. Pantex has identified 249 release sites within 144 Solid Waste Management Units (SWMUs) for investigation and remediation activities. RCRA facility investigations have been completed for all SWMU groupings. Remediation activities are performed to reduce contamination of soils and groundwater sufficiently to achieve a No Further Action designation under the Texas Risk Reduction Standards Guidance. The State has approved 93 release sites as requiring no further action.

Under the current baseline, DOE would complete environmental restoration and decontamination activities and turn over the Pantex facilities for long-term stewardship by FY2014. DOE recently proposed to accelerate these activities to completion by the end of FY2008 (DOE 2002j). Under this accelerated schedule, these activities would be completed prior to the start of the construction of the proposed facilities. Under either schedule, the proposed facilities would not be expected to impact ongoing Pantex remediation activities.

10.5.4 Savannah River Site (SRS) Alternative

Federal facility agreement. SRS was placed on the NPL in 1989. In August 1993, SRS entered into the Federal Facility Agreement with EPA Region IV and the South Carolina Department of Health and Environmental Control (SCDHEC). The Federal facility agreement addresses RCRA corrective action and CERCLA requirements applicable to cleanup at SRS. The agreement governs the corrective/remedial action process from site investigation through site remediation. It also describes procedures for setting annual work priorities, including schedules and deadlines, for that process.

The proposed facilities would not be expected to impact SRS remediation activities under the Federal Facility Agreement.

Site Treatment Plan. On September 20, 1995, SCDHEC approved the Site Treatment Plan for SRS. SCDHEC issued a consent order, signed by DOE, requiring compliance with the plan on September 29, 1995. The Site Treatment Plan provides overall schedules for achieving compliance with RCRA LDR storage and treatment requirements for mixed waste at SRS. DOE provides SCDHEC with annual updates to the information in the SRS Site Treatment Plan.

If SRS were selected as the site for the proposed facilities, DOE would include mixed TRU waste and MLLW associated with operation of the proposed facilities in a future update to the SRS Site Treatment Plan.

10.5.5 Current Capacity Limitations at WIPP

The total disposal capacity at WIPP is limited to 6,180,000 cubic feet under the *WIPP Land Withdrawal Act*. (Of this total, DOE Consultation and Cooperation Agreement with the State of New Mexico limits the volume of remote-handled TRU waste to 250,000 cubic feet.) The preferred alternative in DOE's 1997 *WIPP Supplemental EIS II* (WIPP SEIS II) estimated a basic inventory of 6,004,000 cubic feet of TRU waste that would be disposed of at WIPP over a 35-year operating period. This alternative formed the basis for DOE's 1998 Record of Decision to open WIPP (63 FR 3624).

Nevertheless, the WIPP SEIS II acknowledged, and DOE continues to recognize, that the amount of TRU waste to be disposed of could exceed the volumes identified in the WIPP SEIS II preferred alternative. This could occur in the future for a number of reasons. For example, DOE sites continue to improve the accuracy of their inventories, the nature of sites' missions may change over time, waste processing decisions being made for existing waste forms can generate additional TRU waste, and several sites have missions expected to extend beyond WIPP's currently planned operating period. The proposed facilities would fall into this latter category in that it would be fully operational in 2020 and for a subsequent period of 50 years.

If additional disposal capacity were needed but not readily available post-treatment, storage of waste would be needed until that additional capacity became available. The WIPP SEIS II analyses under Action Alternative 1 examined the impacts of storage and disposal of 11,018,000 cubic feet of TRU waste. This alternative included lag storage for a period of up to

160 years at all of the sites being considered for the proposed facilities. The analyses under WIPP SEIS II Alternative 1 indicated that potential impacts to the public, involved workers, and noninvolved workers from lag storage would be small. The latent cancer fatalities (LCF) would be one or less than one, and no cancers from potential exposure to hazardous chemicals would be expected.

DOE conducted a comprehensive inventory of TRU waste stored and projected to be generated at 27 sites over the 35-year performance lifetime of the WIPP. The results of this inventory are published in the *Annual Transuranic Waste Inventory Report—2007* (DOE 2007c). This document found that over the 35-year life of the WIPP, the capacity would be sufficient to handle existing stored TRU waste and projected TRU waste generated by 27 sites: “The volume of anticipated (stored plus projected) and emplaced (Contact Handled and Remote Handled) waste reported by the DOE TRU waste sites in support of this report is less than the design capacity for WIPP” (DOE 2007c).

In the future, if inventory projects show a need for additional disposal capacity for TRU waste, DOE would initiate the development of strategies for expanding such capacity at an appropriate time. However, because DOE has made no plans to date regarding the location or design of a waste disposal facility for TRU waste beyond WIPP’s current capacity, this SPEIS assumed WIPP as the disposal location for TRU waste generated under each alternative, for the purposes of transportation analysis only.

10.6 COMPLIANCE HISTORY

The following sections describe recent compliance activities at each of the alternative sites. This information was taken from the 2006 Annual Site Environmental Report for each of the sites. These reports have a substantial amount of detail concerning environmental problems, permits and remediation activities. The following Web site is a good reference for obtaining these reports, online: www.hss.energy.gov/nuclearsafety/nsea/oepa/reports/asr/asrlinks

10.6.1 Los Alamos Site Alternative

Clean Water Act and Safe Drinking Water Act. In 2005, LANL was in compliance with its NPDES permit liquid discharge requirements in 100 percent of the samples from its sanitary effluent outfalls and in 99.9 percent of the samples from its industrial effluent outfalls. DOE reported one exceedance of the water quality parameters for industrial outfalls. Corrective actions were taken to address these permit noncompliances. LANL obtains its drinking water under an arrangement with Los Alamos County, and in 2005, LANL’s drinking water system was within Federal and State drinking water standards.

Clean Air Act. In 1994, Concerned Citizens for Nuclear Safety filed a lawsuit against DOE and the Director of LANL alleging violations of the radionuclide NESHAP (40 CFR Part 61, Subpart H) provisions of the CAA. The parties settled the lawsuit out of court on January 25, 1997. DOE and LANL entered into a consent decree and a settlement agreement to resolve the lawsuit. Under the settlement provisions of the consent decree, up to four comprehensive

independent audits of LANL's radioactive air emissions compliance program will be performed to verify whether LANL is in full compliance with the CAA (40 CFR 61, Subpart H).

The first audit assessed LANL's compliance for 1996 and concluded that LANL meets the dose standard for radioactive air emissions but does not meet several technical requirements of 40 CFR Part 61, Subpart H. LANL implemented most of the technical recommendations contained in the assessment report. The second audit determined that LANL was in compliance with the Federal regulations governing radioactive air emissions for the year 1999. The third audit confirmed that LANL's radioactive air emissions in 2001 were less than one fifth of what is allowed by the CAA and that LANL's air-monitoring processes will ensure future compliance with the law. In 2005, in compliance with its operating permit, LANL submitted an Annual Compliance Certification Report in which it demonstrated full compliance with the permits terms, conditions, and reporting requirement deadlines (LANL 2006b).

Resource Conservation and Recovery Act. LANL staff frequently interact with regulatory personnel on RCRA and *New Mexico Hazardous Waste Act* requirements and compliance activities. NMED conducted an annual hazardous waste compliance inspection at LANL from February 23 to March 28, 2005, and NMED issued a Notice of Violation to the University of California and DOE as a result of that inspection. The Notice of Violations identified four alleged violations. The types of issues described ranged from waste determinations, generator's control of waste, exceeding waste storage time, incompatible chemical storage, training, emergency response, waste manifesting, mixed waste management under the Site Treatment Plan, waste piles, and prevention of releases. The University of California and DOE responded to the Notice of Violation.

LANL met all of its Site Treatment Plan deadlines and milestones during 2005 (LANL 2006b).

Price-Anderson Amendments Act. Since 1996, LANL has been the subject of five enforcement actions under the DOE Price-Anderson Enforcement Program. Most recently, in February 2007, National Nuclear Security Administration (NNSA) issued a preliminary notice of violation asserting that LANL had violated nuclear safety rules in the areas of work planning and control, adequacy of procedures, training, quality improvement, assessment programs, safety basis, and radiological and contamination controls. The violations involve improper waste handling procedures resulting in small intakes of radioactive materials by workers.

10.6.2 Lawrence Livermore National Laboratory

Comprehensive Environmental Response, Compensation and Liability Act. Ongoing groundwater investigations and remedial actions at LLNL fall under the jurisdiction of CERCLA, Title I of the *Superfund Amendment and Reauthorization Act* (SARA). CERCLA is commonly referred to as the Superfund law.

The Livermore site became a CERCLA sit in 1987 when it was placed on the NPL. The Livermore Site Ground Water Project (GWP) complies with provisions specified in a Federal

Facility Agreement entered into by EPA, DOE, and the State of California's Department of Toxic Substance Control (DTSC) and the San Francisco Bay Regional Water Quality Control Board.

Significant GWP restoration activities began in 2006, including the installation of 7 dual (groundwater and soil vapor) extraction wells, 2 groundwater extraction wells, 2 groundwater monitoring wells, 11 soil vapor wells and 1 anode well; decommissioning 3 wells; and conducting 2 hydraulic tests, 3 soil vapor extraction tests, and 4 dual extraction tests. LLNL met all regulatory and DOE milestones on schedule by constructing or upgrading treatment facilities and beginning remediation at Treatment Facility D East Traffic Circle North Source Area, Building 419 Source Area, Treatment Facility C Hotspot, buildings 511/514 Source Area, and Treatment Facility 5475 South. LLNL completed 87 of the milestones specified in the Remedial Action Implementation Plan.

In 2006, LLNL operated 27 groundwater treatment facilities. The 92 groundwater extraction wells and 34 dual extraction wells produced nearly 1.1 billion liters of groundwater and removed approximately 78 kilograms of volatile organic compounds (VOCs).

Investigations and remedial activities are ongoing at Site 300, which became a CERCLA site in 1990 when it was placed on the NPL. Common VOCs (primarily TCE) are the main contaminants at Site 300. High explosives (HE), tritium, depleted uranium (DU), organosilicate oil, nitrate, and perchlorate are also found in the groundwater. During 2006, 19 treatment facilities at Site 300 were in operation. At these facilities, 40 groundwater extraction wells and 18 dual phase extraction wells extracted about 116 million liters of groundwater in 2006. The 18 dual phase extraction wells and 2 soil vapor extraction wells together removed 2.25 million cubic meters of soil vapor.

In 2006, 20 boreholes were drilled at Site 300—five were drilled to collect soil and rock for chemical analysis, four were completed as guard wells to monitor down-gradient of contaminant plumes, an eight were completed as monitoring wells for tracking of groundwater contaminant plumes.

Resource Conservation and Recovery Act and related State laws. RCRA provides the framework at the Federal level for regulating the generation, storage, treatment, and management of solid wastes, including wastes designated as hazardous. Subtitle C of RCRA controls all aspects of the management of hazardous waste, from the point of generation to its ultimate disposal. Hazardous waste generators must follow specific requirements for handling these wastes. In addition, owners and operators of hazardous waste treatment, storage, and disposal facilities are required to obtain permits that include a plan for the long-term post-closure care of the facility. The *California Hazardous Waste Control Act* (HWCA) and Title 22 of the *California Code of Regulations* set requirements for managing hazardous wastes and implementing RCRA in California. RCRA and HWCA also regulate permit requirements.

The hazardous waste management facilities at the Livermore site consist of permitted units in Area 612 and buildings 693, 695, and 696 of the Decontamination and Waste Treatment Facility (DWTF). Permitted waste management units include container storage, tank storage, and various

treatment processes. During 2005–2006, LLNL also submitted several Class 1, Class 1*, and Class 2 permit modification requests to DTSC.

A final closure plan for Building 419 Interim Status Facility was submitted to DTSC in February 2001. DTSC is continuing its review of this closure plan. LLNL has provided additional information requested by DTSC, including responding to Building 419 Notices of Deficiency that DTSC issued in November 2004.

The hazardous waste management facilities at Site 300 consist of three operational RCRA-permitted facilities. The Explosives Waste Storage Facility and Explosives Waste Treatment Facility are permitted respectively to store and treat explosives waste only. The Building 883 Container Storage Area is permitted to store routine, facility-generated waste such as spent acids, bases, contaminated oil, and spent solvents.

Clean Air Act. Air permits are obtained from the Bay Area Air Quality Management District (BAAQMD) for LLNL and from the San Joaquin Valley Air Pollution Control District (SJVAPCD) and BAAQMD for Site 300. Both agencies are overseen by the California Air Resources Board.

In 2006, LLNL operated 1,182 permitted air emission sources at the Livermore site and 43 permitted air emission sources at Site 300. During the year, BAAQMD performed two Livermore site source inspections and 44 emission sources and the SJVAPCD performed one Site 300 source inspection of one emission source. Both the BAAQMD and the SJVAPCD found all inspected sources in compliance with applicable air emission regulations and permit conditions.

In 2006, several potentially significant air pollutant emission sources at the Livermore site were eliminated to reduce overall pollutant emissions. In addition, LLNL obtained approvals to construct and alternative fuel dispensing facility at the Livermore site.

National Emission Standards for Hazardous Air Pollutants, radionuclides. To demonstrate compliance with 40 CFR Part 61, Subpart H (NESHAPs for radiological emissions from DOE facilities), LLNL is required to monitor certain air release points and evaluate the maximum possible dose to the public. In 2006, LLNL continuously monitored radionuclide emissions from the Tritium Facility, the Plutonium Facility, and portions of five other facilities. Using ambient air monitoring, LLNL also continuously monitored releases of DU used in explosives testing at Site 300. There was one unplanned incident at the Livermore site in 2006 that had the potential to result in a small release of tritium to air. However, because LLNL personnel with the most exposure did not receive any measurable dose attributable to the incident, any potential dose to a member of the public would have been negligible. There were no unplanned atmospheric releases at Site 300 in 2006.

Clean Water Act. The NPDES under the *Clean Water Act* (CWA) (33 U.S.C. 1251 *et seq.*) establishes permit requirements for discharges into waters of the United States. In addition, the State of California, under the *Porter-Cologne Water Control Act*, requires permits, known as Waste Discharge Requirements (RWQCBs) and the State Water Resources Control Board.

Several other State and local government entities also require discharge permits. The *Safe Drinking Water Act* (Public Law 99-339) requires registration with EPOA and management of injection wells to protect underground sources of drinking water.

At Site 300, LLNL completed the construction of two culverts at Round Valley and Oasis. A habitat pool built at Round Valley served in part to compensate for the loss of habitat that was a result of two drainage improvement projects. These projects were authorized under nationwide permits and certified by the Central Valley RWQCB. To satisfy a concern that the cooling tower blowdown from Building 801 at Site 300 might reach a surface water tributary during winter storms, LLNL constructed a new percolation pit and registered it as a Class V injection well with the EPA. The new system was put into service on October 9, 2006.

10.6.3 Nevada Test Site Alternative

NTS continues to fulfill its requirements of the agreements discussed in Section 10.5.2. Compliance issues related to specific programs are noted in the following paragraphs.

Clean Water Act. There are no NPDES permits for NTS because there are no wastewater discharges directly to onsite or offsite surface waters. However, discharges to sewage lagoons and ponds are regulated by the State of Nevada under a State general permit. NTS has maintained compliance with permit requirements. However, downsizing of NTS operations has resulted in low flow conditions at several sewage lagoon systems, which has reduced the efficiency of the lagoons to properly treat effluents. DOE plans to install septic tank systems in these areas (NTS 2007).

Safe Drinking Water Act. During 2006, the four public drinking water systems at NTS were in compliance with regulatory limits. Onsite water wells and select offsite wells are monitored in accordance with Federal and State SDWA regulations (NTS 2007).

Resource Conservation and Recovery Act. No noncompliance incidents were reported in 2006. Violations were cited during those inspections (NTS 2007).

Clean Air Act. Criteria air pollutants emitted at NTS include particulates from construction, aggregate production, surface disturbances, and fugitive dust from vehicles traveling on unpaved roads; various pollutants from fuel-burning equipment, incineration, and open burning and volatile organics from fuel storage facilities. Emissions of hazardous air pollutants from current NTS sources are below regulatory requirements. During 2006, three pieces of equipment failed their performance emissions test and were shut down (NTS 2007).

Ambient air quality at NTS is not currently monitored for criteria pollutants or hazardous air pollutants, with the exception of radionuclides. As with all previous years that the NESHAP report was produced, the estimated annual dose to the public from radiological emissions during 2005 was well below the 10 millirem dose per year limit (40 CFR 61.92) (NTS 2007).

Comprehensive Environmental Response, Compensation, and Liability Act. Other than reporting requirements, there is no formal CERCLA program at NTS (NTS 2007).

Price-Anderson Amendments Act. NTS has not been subject to any enforcement actions under the DOE Price-Anderson Enforcement Program.

10.6.4 Tonopah Test Range (TTR)

Comprehensive Environmental Response, Compensation and Liability Act. CERCLA defines assessment activities and reporting requirements for inactive waste sites at Federal facilities. As required by CERCLA, a Preliminary Assessment was submitted in 1988 for all facilities listed on the Federal agency hazardous waste compliance docket. Sites with significant contamination were put on the NPL for cleanup. There are no NPL or Superfund sites located at TTR.

SARA Title III amended CERCLA requirements for reportable quantity releases and chemical inventory reporting. SNL at TTR was in full compliance with CERCLA/SARA in 2006. SARA also requires reporting for chemical releases exceeding certain thresholds. The TTR Firing Range released approximately 5,832 pounds of nonrecovered lead in 2006. This amount exceeds the reporting limit and will be reported in the 2007 report.

Resource Conservation and Recovery Act and related State laws. RCRA provides the framework at the Federal level for regulating the generation, storage, treatment, and management of solid wastes, including wastes designated as hazardous. Subtitle C of RCRA controls all aspects of the management of hazardous waste, from the point of generation to its ultimate disposal. Hazardous waste generators must follow specific requirements for handling these wastes. In addition, owners and operators of hazardous waste treatment, storage, and disposal facilities are required to obtain permits that include a plan for the long-term post-closure care of the facility.

Under the RCRA Hazardous Waste Permit Program (40 CFR Part 270), TTR is permitted as a “small quantity generator.” Under this designation, hazardous waste can only be stored onsite for 180 days before it must be shipped offsite for treatment and disposal at an EPA-permitted facility. Sanitary solid waste, also regulated by RCRA, is disposed of at landfills onsite. There is one Class II sanitary landfill in operation at TTR operated by the U.S. Air Force (USAF) Operations and Maintenance contractor.

The last of five underground storage tanks, two gas and two diesel tanks from a former gas station in Area 3, and one diesel tank from Area 9, were removed in 1995. There are no above ground storage tanks that require registration with the State of Nevada, at TTR.

Clean Air Act and Clean Air Act amendments of 1990. CAA requirements are regulated by the State of Nevada air quality regulations. Air emissions from nonradionuclide sources, such as a screening plant or a portable screen, are permitted under a Class II Air Quality Permit. SNL tracks emissions and pays a fee to the State of Nevada based on the total standard tons emitted. SNL met all air quality permit conditions in 2006.

National Emission Standards for Hazardous Air Pollutants, radionuclides. To demonstrate compliance with 40 CFR Part 61, Subpart H (NESHAPs for radiological emissions from DOE facilities), TTR is required to monitor certain air release points and evaluate the maximum possible dose to the public. EPA retains compliance authority for all radionuclide air releases.

The Clean Slate sites, former nuclear material test sites, have been the only source of radionuclide air emissions at TTR. Continuous air monitoring was conducted from February 22, 1996, to February 25, 1997 (SNL 1997). The TTR airport was determined to be the location of the maximally exposed individual (MEI). The result of 0.024 millirem per year was below the threshold of 0.1 millirem per year, for which continuous air monitoring would be required, and approximately 400 times less than the EPA standard of 10 millirem per year.

Clean Water Act. NPDES under the *Clean Water Act* (CWA) establishes permit requirements for discharges into waters of the United States. Wastewater effluents and potable water supplies are regulated under the CWA and the State of Nevada water pollution and sanitary waste systems regulations. The State of Nevada, Bureau of Health Protection Services, and the Nevada Department of Environmental Protection administer regulations relevant to wastewater discharges. At TTR, wastewater is discharged to the sewer system that is connected to the USAF sewage lagoon and to six separate septic tank systems. There were no excursions or other permit violations in 2006 with respect to wastewater discharges.

10.6.5 Pantex Alternative

The TCEQ routinely conducts RCRA, CAA, and drinking water compliance inspections. Overall, Pantex is in compliance with the applicable environmental laws and regulations. However, since this facility existed prior to the promulgation of many current environmental laws and regulations, both EPA and the State of Texas have allowed DOE to continue operations while taking actions to achieve full compliance with all applicable environmental regulatory requirements. Pantex has reported minor noncompliances pursuant to its State of Texas and EPA permits, but no cases of noncompliance that could have impacted human health or the environment have occurred.

Compliance agreements and orders. In 1994, Pantex was placed on the NPL based on the presence of contamination due to past practices. DOE, TNRCC, and EPA Region 6 developed a Federal Facility Compliance Agreement to address CERCLA issues at Pantex.

EPA has issued two administrative orders to address prior noncompliance with Pantex's NPDES permit. DOE also entered into a FFCA (No. VI-98-1210) (DOE 1999a) with EPA Region 6 relating to the same issues. As of the end of 2000, all corrective actions contained in the administrative orders and the FFCA were on schedule.

Groundwater protection. Pantex conducts soil and groundwater monitoring in accordance with the corrective action provisions (CP-50284) of its Hazardous Waste Permit No. HW-50284. Nonradiological contamination was found in the perched groundwater beneath the Zone 12 operations area (metals, explosives, and organic solvents), in the soil near operations areas (traces of metals and explosives), and in the ditches and playas that form Pantex's drainage system (metals and explosives). Some contaminants were also found in the perched aquifer on properties neighboring Pantex to the south and southeast.

Trichloroethene was detected with results above the drinking water standard in an Ogallala Aquifer monitoring well sample taken in May 1999. This aquifer is the primary source of

drinking water for the surrounding landowners and the cities of Amarillo and Panhandle. A study concluded that an improperly constructed monitoring well was allowing trichloroethene to migrate from the upper vadose into the well and down into the Ogallala Aquifer. Corrective measures eliminating the contaminant pathway into the Ogallala Aquifer have been completed.

Antimony, cadmium, chromium, manganese, and thallium were also detected in a small number of samples in a few selected Ogallala Aquifer monitoring wells at levels that exceeded drinking water standards. These exceedances may be attributed to corrosion of the stainless steel well screens, casings, and pumps. It is Pantex's intent to plug wells that have become badly corroded. Monitoring for these constituents will continue.

Price-Anderson Amendments Act. Since 1996, Pantex has been the subject of four enforcement actions under the DOE Price-Anderson Enforcement Program. Most recently, in May 2005, DOE issued a preliminary notice of violation asserting that Pantex had failed to maintain and control the operation of safety equipment in its nuclear facilities. The notice included violation of facility safety basis requirements, work process and training procedures, and quality improvement requirements that contributed to the unplanned HE cracking during the disassembly of a retired nuclear weapon.

10.6.6 Sandia National Laboratories

Comprehensive Environmental Response, Compensation, and Liability Act. Ongoing groundwater investigations and remedial actions at SNL fall under the jurisdiction of CERCLA, Title I of SARA. CERCLA is commonly referred to as the Superfund law. A preliminary assessment/site inspection was performed at SNL/New Mexico (SNL/NM) in 1988. This inspection confirmed that SNL/NM does not own any sites that would qualify for the NPL. Therefore, with respect to inactive hazardous waste sites, SNL has no CERCLA reporting requirements. Amendments under SARA require additional reporting in the event of a reportable quantity release of certain substances. SNL was in full compliance with CERCLA/SARA in 2006.

Resource Conservation and Recovery Act and related State laws. RCRA provides the framework at the Federal level for regulating the generation, storage, treatment, and management of solid wastes, including wastes designated as hazardous. Subtitle C of RCRA controls all aspects of the management of hazardous waste, from the point of generation to its ultimate disposal. Hazardous waste generators must follow specific requirements for handling these wastes. In addition, owners and operators of hazardous waste treatment, storage, and disposal facilities are required to obtain permits that include a plan for the long-term post-closure care of the facility. The RCRA program was delegated to the State of New Mexico. SNL has RCRA permits for the Hazardous Waste Management Facility, the Thermal Treatment Facility, the High Bay Waste Storage Facility, and the Radioactive Mixed Waste Management Facility. A new application to include the Auxiliary Hot Cell has been made. During 2006, SNL requested minor modifications to the existing permits for the Hazardous Waste Management Facility to reflect changes in personnel and operations. These modifications were approved, along with modifications requested, in 2005.

Clean Air Act. The objectives of the CAA and the CAA amendments of 1990 are to protect and enhance the Nation's air quality. EPA is responsible for describing and regulating air pollutants from stationary and mobile sources and for setting ambient air quality standards. In 2006, SNL was in compliance with all CAA requirements.

National Emission Standards for Hazardous Air Pollutants, Radionuclides. To demonstrate compliance with 40 CFR Part 61, Subpart H (NESHAPs for radiological emissions from DOE facilities), SNL is required to monitor certain air release points and evaluate the maximum possible dose to the public. As required by the regulations, SNL calculates an annual dose from actual or calculated emissions to potentially exposed members of the public. In 2006, the MEI was located at the Kirkland Storage Site. The dose at this location was 0.0016 millirem per year; the result, primarily, of releases of argon-41 from the annular core research reactor and the Sandia pulsed reactor, both located in TA-V. The offsite MEI was located at the Eubank Gate Area. The dose at this location was 0.00079 millirem per year; the result, primarily, of releases of tritium from the Neutron Generator Facility located in TA-I. Both doses are well below the EPA standard of less than 10 millirem per year.

Clean Water Act. NPDES under the CWA establishes permit requirements for discharges into waters of the United States. At SNL/NM, the CWA applies to sanitary and septic system effluents, storm water runoff, and surface water discharges. The CWA is implemented and administered by State, local, and Federal entities. Surface discharges made to the ground or to containment areas must be monitored and evaluated for compliance with New Mexico State regulations. Additionally, two evaporation lagoons in TA-IV are permitted by the State. All permit and monitoring requirements were met in 2006. In 2006, there were seven reportable surface releases that met State reporting requirements and were reviewed by the Surface Discharge Program.

10.6.7 Savannah River Site Alternative

Notices of violation. No notices of violation were issued for SRS in 2006 under RCRA or the SDWA. No notices of violation were issued under the CAA.

Under the CWA, SRS's NPDES compliance rate was 99.9 percent. DOE reported three exceedances. Corrective actions were taken to address each of these permit noncompliances. Two notices of violation were received under NPDES from SCDHEC.

During 2006, SCDHEC conducted CAA compliance inspections at SRS. As a result of the annual compliance inspections, SRS achieved a compliance rate of 100 percent and received no notice of violation under the CAA (SRS 2006c).

Consent orders. In October 1999, SCDHEC issued a consent order addressing compliance with water quality parameters set forth in the site's NPDES permit at outfall A-01. During 2000, a wetland treatment system was constructed to address these problems. The wetland system was operating and had achieved compliance with permit parameters by the end of 2001.

Price-Anderson Amendments Act. Since 1996, SRS has been the subject of six enforcement actions under the DOE Price-Anderson Enforcement Program. Most recently, in April 2004, DOE issued a preliminary notice of violation describing numerous violations of nuclear safety requirements related to SRS operations at the FB-line, seven of which were classified as Severity Level II violations. These violations included work processes, as low as reasonably achievable (ALARA) practices, quality improvement, and management assessment.

10.6.8 Y-12 Complex

Comprehensive Environmental Response, Compensation and Liability Act. CERCLA, also known as Superfund, was passed in 1980 and was amended in 1986 by SARA. The Oak Ridge Reservation, which Y-12 is a part of, was listed on the NPL as a Superfund site on November 21, 1989. An interagency agreement under Section 120(c) of CERCLA, known as the Oak Ridge Reservation (ORR) Federal Facility Agreement, was effective in 1992 among EPA, the TDEC, and DOE. The agreement establishes the procedural framework and schedule for developing, implementing, and monitoring remedial actions on ORR (and Y-12) in accordance with CERCLA. The agreement lists all of the sites/areas that will be investigated, and possibly undergo remediation, under CERCLA.

The progress toward achieving these goals is described in the *2006 Remediation Effectiveness Report for the U.S. Department of Energy Oak Ridge Reservation, Oak Ridge Tennessee* (DOE 2007a). This report describes the individual remedial actions and provides an overview of some of the monitoring conducted to evaluate the efficacy of those actions.

Resource Conservation and Recovery Act. RCRA provides the framework at the Federal level for regulating the generation, storage, treatment, and management of solid wastes, including wastes designated as hazardous. Subtitle C of RCRA controls all aspects of the management of hazardous waste, from the point of generation to its ultimate disposal. Hazardous waste generators must follow specific requirements for handling these wastes. In addition, owners and operators of hazardous waste treatment, storage, and disposal facilities are required to obtain permits that include a plan for the long-term post-closure care of the facility.

At the end of 2006, Y-12 had 102 generator accumulation areas for hazardous or mixed waste. The Y-12 complex is registered as a large-quantity generator under EPA identification Number TN389090001 and is permitted to perform hazardous waste treatment and storage. During 2006, nine units operated as permitted units. The RCRA treatment units at Y-12 operate under two RDRA permits.

At the Y-12 Complex, 37 RCRA units have been closed since the mid 1980s. TDEC accepted the certification of final closure to the East Chestnut Ridge Waste Pile on January 5, 2006. Located within the boundary of the Y-12 complex are two Class II operating industrial solid waste disposal landfills and one operating Class IV construction demolition landfill. These facilities are permitted by TDEC and accept solid waste from DOE operations on the ORR. A second Class IV construction demolition landfill has been certified closed and the permit terminated on March 15, 2007. In addition, one Class IV is overfilled by 11,700 cubic yards and has been the subject of a CERCLA remedial investigation/feasibility study.

The Y-12 Underground Storage Tank (UST) program includes four active petroleum USTs that meet all current regulatory compliance requirements. All legacy petroleum UST sites at the Y-12 complex have either been granted final closure by TDEC or have been referred to the CERCLA process for further action.

Clean Air Act. Authority for implementation and enforcement of the CAA has been delegated to the State of Tennessee by EPA as described in the State Implementation Plan. Air pollution control rules are developed and administered by the TDEC. The Y-12 complex has two permits issued by the TDEC. One, a Title V Permit, includes 35 air emission sources and more than 100 air emission points. During 2006, a significant permit modification to this Title V Permit was issued to identify new requirements and compliance methodologies for the Y-12 steam plant maintenance project. The new requirements will be effective upon completion of the project and require use of Maximum Achievable Control Technology.

National Emission Standards for Hazardous Air Pollutants, radionuclides. To demonstrate compliance with 40 CFR Part 61, Subpart H (NESHAPs for radiological emissions from DOE facilities), the Y-12 complex is required to monitor certain air release points and evaluate the maximum possible dose to the public. On June 10, 1996, EPA delegated authority for regulation of airborne radionuclide emissions to the TDEC. TDEC adopted the Federal rules. In 2006, the Y-12 complex operated in compliance with the radionuclide NESHAPs dose limits of 10 millirem per year to the most exposed member of the public. Based on modeling of radionuclide emissions from all sources, the effective dose equivalent in 2006 to the most exposed member of the public was 0.8 millirem per year.

Y-12 has numerous buildings and equipment that contain asbestos-containing materials. The regulation of the program to control asbestos during demolition and renovation is regulated by TDEC (the TSCA regulates the management and disposal of this material). No releases of reportable quantities of asbestos were reported at the Y-12 complex in 2006.

Clean Water Act. NPDES under the CWA establishes permit requirements for discharges into waters of the United States. The NPDES program has been delegated, by EPA, to the State of Tennessee. The Y-12 complex operates under Permit TN0002968, issued in 1995, and reissued on May 1, 2006. Presently, about 60 active point-source discharges or instream monitoring locations are monitored for compliance with the permit. In 2006 there was one NPDES noncompliance (chlorine at outfall #201, on February 7, 2006).

CWA includes pretreatment regulations for publicly owned treatment works. Sanitary wastewater from the Y-12 complex is discharged to the City of Oak Ridge treatment works under an industrial and commercial wastewater discharge permit. The permit establishes discharge limits for total suspended solids, biochemical oxygen demand, total nitrogen, and various metals and requires monitoring and reporting of uranium, gross alpha and beta radiation, and several organic compounds.